



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,992	01/16/2004	Warren B. Jackson	200311198-1	7913

22879 7590 08/11/2005

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

NGUYEN, VIET Q

ART UNIT PAPER NUMBER

2827

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/758,992	JACKSON ET AL.	
	Examiner	Art Unit	
	Viet Q. Nguyen	2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,6,10-12,14,19 and 20 is/are rejected.
- 7) ☒ Claim(s) 2-5,7-9,13,15-18 and 21-25 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/29/2005</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

1. The applicant's election filed on **7/14/2005** is acknowledged. However, the last restriction requirement was mailed out by mistake because the whole office action address the claims from another, different patent application and was wrongly set in the header with this application number, therefore causing confusion for the mail team. Accordingly, the claims **1-25** in this application are now pending and present for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims **1, 6, 10, 11, 12, 19, 20** rejected under 35 U.S.C. 103(a) as being unpatentable over **Lopatin et al (6,686,263)**, or **Buynoski et al (6,852,586)**, or **Oglesby et al (6,656,763)**, or **Krieger et al (6,838,720)**.

All the references above teach a polymer memory including two electrodes and also a method for reading/writing data into the organic polymer memory.

- **Lopatin et al (see Fig. 1)** shows the cell having two electrodes and organic polymer layer (108) in between, and an passive layer as claimed "hole injection" layer;

- **Buynoski et al (see Fig. 4)** shows the cell having two electrodes and organic polymer layer (418) in between, and an passive layer as claimed "hole injection" layer;
- **Oglesby et al (see Fig. 1-2)** also shows the cell having two electrodes and organic polymer layer (112) in between, and an passive layer as claimed "hole injection" layer;
- **Krieger et al (see Fig. 1)** shows the cell having two electrodes and organic polymer layer (15) in between, and a passive layer as claimed "hole injection" layer.

All the references also mention the reading and writing for the cell by applying a WRITE or READ voltage to change the memory cell's threshold voltage level as well the duration of voltage pulse to be applied, and thus each cell is capable of storing two distinct states as claimed.

Regarding claim 11, although the references above did not specifically state the use of their polymer memories in the particular electronic devices, i.e., processor, audio, or other electronics device, it would still be obvious to one skilled in this art that all of these devices always use memory and thus any other retypes or structure of memory, including this polymer type, could have been used without undue experimentation as well.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Speakman (6.503,831)**.

Speakman (see Fig. 1) teaches a technique for forming or depositing an electrode for a semiconductor device and/or any other device with molecular structure; however, col. 11 (lines 12-17) states that such molecular structure and/or devices could be any type of memory devices, including the "polymer memory" as well. It would be obvious to one skilled in this art to form such two electrodes onto a polymer memory that include an organic polymer material in between as well. Regarding the claimed step of "identifying the electron-blocking" material to be used as a layer between the electrode and such polymer material, it is noted that although Speakman lack the specific teachings, it does point out that (see col. 15, lines 1-3) mention that the "**polymeric**" material may comprise a suitable "**electron injection barrier material**". Thus, in so far as the claim terminology of "electron-blocking" is concerned, any one skilled in this art could also see that such claimed "**blocking**" layer would act as the disclosed "**barrier**" layer as suggest in this reference because both terms mean that electrons are prevented to enter the polymeric material/layer to one artisan in this art. Thus, introducing such layer in between the electrode and the polymer material would be an obvious expedient choice to one skilled in the art per this suggestion.


5. Other remaining claims **2-5, 7-9, 13, 15-18, and 21-25** are objected as dependent upon the rejected base claims; however, they contain allowable subject matter in regard to the claimed features, i.e., length of time for applying voltage that is not specifically suggested elsewhere in the arts.

Art Unit: 2827

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viet Q. Nguyen whose telephone number is (571) 272-1788. The examiner can normally be reached on 7am-6pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoai Ho can be reached on (571) 272-1777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


V. Nguyen
8/6/2005

Viet Q Nguyen
Primary Examiner
Art Unit 2827

